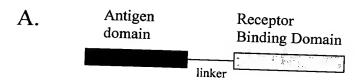
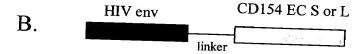
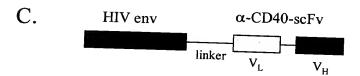
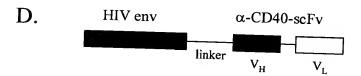
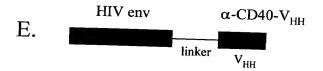
1/7
Figure 1.
Fusion Proteins that Target Antigen to APC

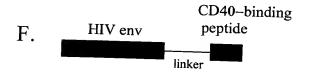












2/7 Figure 2A.

Sequence and translation of two cDNAs encoding HIV gp120 V3 loop-CD154 LONG form extracellular domain fusion proteins.

```
HindIII
                     Signal Peptide
                     Met Leu Tyr Thr Ser Gln Leu Leu Gly Leu Leu
     AAG CTT GCC GCC ATG CTG TAT ACC TCT CAG CTG TTA GGA CTA CTT
                                  BglII
                                  ~~~~~~ HIVgp120-V3 loop
     Leu Phe Trp Ile Ser Ala Ser Arg Ser Val Val Ile Asn Cys Thr
     CTG TTT TGG ATC TCG GCT TCG AGA TCT GTA GTA ATT AAT TGT ACA
 46
     Arg Pro Asn Asn Asn Thr Arg Arg Leu Ser Ile Gly Pro Gly
     AGA CCC AAC AAC AAT ACA AGA AGA AGG TTA TCT ATA GGA CCA GGG
 91
     Arg Ala Phe Tyr Ala Arg Arg Asn Ile Ile Gly Asp Ile Arg Gln
     AGÁ GCA TTT TAT GCA AGÁ AGÁ AAC ATA ATA GGÁ GAT ATA AGÁ CAA
136
      Ala His Cys Asn Ile Ser
      GCA CAT TGT AAC ATT AGT
181
      ProAspPro Linker
         BamHI
      Pro Asp Pro
      CCG GAT CCA
199
```

OR (Gly₄Ser)₃ Linker

BamHI

Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Pro GGT GGC GGT GGC TCA GGA GGC GGT GGA TCT GGC GGT GGA GGT TC**G GAT CC**A

```
CD154 LONG extracellular domain
Arg Arg Leu Asp Lys Ile Glu
```

```
208PDP
          AGA AGG TTG GAC AAG ATA GAA
250GS
          Asp Glu Arg Asn Leu His Glu Asp Phe Val Phe Met Lys Thr Ile
229PDP
          GAT GAA AGG AAT CTT CAT GAA GAT TTT GTA TTC ATG AAA ACG ATA
271GS
          Gln Arg Cys Asn Thr Gly Glu Arg Ser Leu Ser Leu Leu Asn Cys
          CAG AGA TGC AAC ACA GGA GAA AGA TCC TTA TCC TTA CTG AAC TGT
274PDP
316GS
          Glu Glu Ile Lys Ser Gln Phe Glu Gly Phe Val Lys Asp Ile Met
          GAG GAG ATT AAA AGC CAG TTT GAA GGC TTT GTG AAG GAT ATA ATG
319PDP
361GS
          Leu Asn Lys Glu Glu Thr Lys Lys Glu Asn Ser Phe Glu Met Gln
364PDP
          TTA AAC AAA GAG GAG ACG AAG AAA GAA AAC AGC TTT GAA ATG CAA
406GS
          Lys Gly Asp Gln Asn Pro Gln Ile Ala Ala His Val Ile Ser Glu
          AAA GGT GAT CAG AAT CCT CAA ATT GCG GCA CAT GTC ATA AGT GAG
409PDP
451GS
          Ala Ser Ser Lys Thr Thr Ser Val Leu Gln Trp Ala Glu Lys Gly
454PDP
          GCC AGC AGT AAA ACA ACA TCT GTG TTA CAG TGG GCT GAA AAA GGA
496GS
          Tyr Tyr Thr Met Ser Asn Asn Leu Val Thr Leu Glu Asn Gly Lys
499PDP
          TAC TAC ACC ATG AGC AAC TTG GTA ACC CTG GAA AAT GGG AAA
541GS
          Gln Leu Thr Val Lys Arg Gln Gly Leu Tyr Tyr Ile Tyr Ala Gln
544PDP
          CAG CTG ACC GTT AAA AGA CAA GGA CTC TAT TAT ATC TAT GCC CAA
586GS
          Val Thr Phe Cys Ser Asn Arg Glu Ala Ser Ser Gln Ala Pro Phe
589PDP
          GTC ACC TTC TGT TCC AAT CGG GAA GCT TCG AGT CAA GCT CCA TTT
631GS
          Ile Ala Ser Leu Cys Leu Lys Ser Pro Gly Arg Phe Glu Arg Ile
634 PDP
          ATA GCC AGC CTC TGC CTA AAG TCC CCC GGT AGA TTC GAG AGA ATC
 676GS
          Leu Leu Arg Ala Ala Asn Thr His Ser Ser Ala Lys Pro Cys Gly
 679PDP
          TTA CTC AGA GCT GCA AAT ACC CAC AGT TCC GCC AAA CCT TGC GGG
 721GS
          Gln Gln Ser Ile His Leu Gly Gly Val Phe Glu Leu Gln Pro Gly
 724 PDP
          CAA CAA TCC ATT CAC TTG GGA GGA GTA TTT GAA TTG CAA CCA GGT
 766GS
          Ala Ser Val Phe Val Asn Val Thr Asp Pro Ser Gln Val Ser His
 769PDP
          GCT TCG GTG TTT GTC AAT GTG ACT GAT CCA AGC CAA GTG AGC CAT
 811GS
           Gly Thr Gly Phe Thr Ser Phe Gly Leu Leu Lys Leu Glu *** ***
           GGC ACT GGC TTC ACG TCC TTT GGC TTA CTC AAA CTC GAG TGA TAA
 814PDP
 856GS
           XbaI
           ~~~~~
```

859PDP ~~~~~ 901GS **TCT AGA**

361GS

364PDP

406GS 409PDP

451GS

454PDP 496GS

499PDP

541GS

544PDP

586GS

631GS 634GS

676GS

679PDP

721GS

XbaI

Ser Arg

TCT AGA

589PDP

3/7 Figure 2B. Sequence and translation of two cDNAs encoding HIV gp120 V3 loop-

Sequence and translation of two cDNAs encoding III v gp 120 vs leep CD154 SHORT form extracellular domain fusion proteins.																
	Hind															
	~~~~	~~~	,		Sign	al F	ept1	.ae Thr	Ser	Gln	T.e.ii	Leu	Glv	Leu	Leu	
			GCC	000	Met	стс	TÄT	DCC TIII	TCT	CAG	CTG	TTA	GGA	CTA	CTT	
1	AAG	CTT	GCC	GCC	AIG	CIG	IAI	Ral I	Ι <b>ΗΙ</b>	Vap1	20-V	3 10	op			
								~~~	. ~ ~ ~ ~							
	T 011	Dho	Trp	Tle	Ser	Ala	Ser	Arq	Ser	Val	Val	Ile	Asn	Cys	Thr	
46	~~~	mmm	mcc	$\nabla \mathbf{m} \mathbf{c}$	TCC	CCT	TCG	A(÷A	TCT	GIA	GIA	WIT.	LTC7 T	101	1101-	
40	_	_	70	70	7 an	中りゃ	Ara	Ara	Ara	ьеп	Ser	тте	GIY	LIO	\circ	
91		~~~	7.7.0	777	70.77	$\Lambda \cap \Lambda$	$\Delta C \Delta$	AGA	A(i(i	TTA	TUI	MIM	GGA	CCL	000	
<i>J</i> <u> </u>	_		D1	m	7.7.	Λrα	Δra	Aan	Tle	ше	GIV	ASP	TTE	ALG	OTIL	
136	AGA	GCA	TTT	TAT	GCA	AGA	AGA	AAC	ATA	ATA	GGA	GAT	ATA	AGA	CAA	
	Ala	His	Cys	Asn	Ile	Ser										
181	GCA	CAT	TGT	AAC	ATT	AGT										
ProAspPro Linker BamHI																
į			Pro													
199	CCG	GAI	CCA	لـ												
			a		nk01	_								1	BamHl	Γ
			√Ser,												~~~~	
Gl ₃	/ Gly	Gly GGT	Gly GGC	Ser TCA	Gly	Gly	Gly GGT	Gly GGA	Ser TCT	Gly GGC	Gly GGT	Gly GGA	Gly GGT	Ser TC G	Asp GAT	Pro CCA
		CDI	154 S	HORT	ext	race	11u1	ar c	iomai	.n						
208PI	OP	Glu	ı Asn	Ser	Phe	Glu	Met	CAT	1							
250 G S		_	A AAC	TO		700	Dro	. Clr	r Tle	Ala	Ala	His	Val	Ile	Ser AGT	Glu
229PI			~~~		n ~ n ~	י אארי	י רירי	ע ב'' י	I AT	· (¬(.(-	1 (1)	CMI	GIC			
271G			_	_	T	. m. L	nh,	- 501	~ V/al	1.01	ı (ilr	i Tru	MI A	L GIU	ட்பர்	O ± y
274P					n 70707	\ \ \^\	\ 7\C\1	י ידיריי	ቦ ርንጥር	\cdot The μ	A CAU	166		. GAA:	1 1777	0011
m		m	- mh -	· Mot	- 501	~ ∆ < t	n Ast	n Let	ı val	_ Thr	: шеч	L GIL	i von	LOTA		
319PDP		- Y	- <u> 7</u> -	7 700	~ NTC	7 760	~ ^ ^ ^	~ AA(TTO	GTA	A ACC	CTG	GAF	raa A	' GGG	AAA

TAC TAC ACC ATG AGC AAC AAC TTG GTA ACC CTG GAA AAT GGG AAA

Gln Leu Thr Val Lys Arg Gln Gly Leu Tyr Tyr Ile Tyr Ala Gln

CAG CTG ACC GTT AAA AGA CAA GGA CTC TAT TAT ATC TAT GCC CAA

Val Thr Phe Cys Ser Asn Arg Glu Ala Ser Ser Gln Ala Pro Phe

GTC ACC TTC TGT TCC AAT CGG GAA GCT TCG AGT CAA GCT CCA TTT

Ile Ala Ser Leu Cys Leu Lys Ser Pro Gly Arg Phe Glu Arg Ile ATA GCC AGC CTC TGC CTA AAG TCC CCC GGT AGA TTC GAG AGA ATC

Leu Leu Arg Ala Ala Asn Thr His Ser Ser Ala Lys Pro Cys Gly TTA CTC AGA GCT GCA AAT ACC CAC AGT TCC GCC AAA CCT TGC GGG

Gln Gln Ser Ile His Leu Gly Gly Val Phe Glu Leu Gln Pro Gly

CAA CAA TCC ATT CAC TTG GGA GGA GTA TTT GAA TTG CAA CCA GGT

Ala Ser Val Phe Val Asn Val Thr Asp Pro Ser Gln Val Ser His

GCT TCG GTG TTT GTC AAT GTG ACT GAT CCA AGC CAA GTG AGC CAT

Gly Thr Gly Phe Thr Ser Phe Gly Leu Leu Lys Leu Glu *** ***

GGC ACT GGC TTC ACG TCC TTT GGC TTA CTC AAA CTC GAG TGA TAA

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Figure 3A.
Sequence and translation of two cDNAs encoding HIV gp120-CD154 LONG form extracellular domain fusion proteins.

HindIII Signal Peptide Met Leu Tyr Thr Ser Gln Leu Leu Gly Leu Leu AAG CTT GCC GCC ATG CTG TAT ACC TCT CAG CTG TTA GGA CTA CTT BglII HIV qp120 domain Leu Phe Trp Ile Ser Ala Ser Arg Ser Met Leu Leu Gly Ile Leu CTG TTT TGG ATC TCG GCT TCG AGA TCT ATG CTC CTT GGG ATA TTG 46 Met Ile Cys Ser Ala Thr Glu Lys Leu Trp Val Thr Val Tyr Tyr ATG ATC TGT AGT GCT ACA GAA AAA TTG TGG GTC ACA GTC TAT TAT 91 Gly Val Pro Val Trp Arg Glu Ala Thr Thr Thr Leu Phe Cys Ala GGG GTA CCT GTG TGG AGA GAA GCA ACC ACC ACT CTA TTT TGT GCA 136 Ser Asp Ala Lys Ala Tyr Asp Thr Glu Val His Asn Val Trp Ala TCA GAT GCT AAA GCC TAT GAT ACA GAG GTA CAT AAT GTT TGG GCC 181 Thr His Ala Cys Val Pro Thr Asp Pro Asn Pro Gln Glu Val Val ACA CAT GCC TGT GTA CCC ACA GAC CCC AAC CCA CAA GAA GTA GTA 226 Leu Gly Asn Val Thr Glu Asn Phe Asn Met Trp Lys Asn Asn Met TTG GGA AAT GTG ACA GAA AAT TTT AAC ATG TGG AAA AAT AAC ATG 271 Val Asp Gln Met His Glu Asp Ile Ile Ser Leu Trp Asp Glu Ser GTA GAT CAG ATG CAT GAG GAT ATA ATC AGT TTA TGG GAT GAA AGC 316 Leu Lys Pro Cys Val Lys Leu Thr Pro Leu Cys Val Thr Leu Asn CTA AAG CCA TGT GTA AAA TTA ACC CCA CTC TGT GTT ACT TTA AAT 361 Cys Thr Asn Leu Asn Ile Thr Lys Asn Thr Thr Asn Pro Thr Ser TGC ACT AAT TTG AAT ATC ACT AAG AAT ACT ACT AAT CCC ACT AGT 406 Ser Ser Trp Gly Met Met Glu Lys Gly Glu Ile Lys Asn Cys Ser 451 Phe Tyr Ile Thr Thr Ser Ile Arg Asn Lys Val Lys Lys Glu Tyr TTC TAT ATC ACC ACA AGC ATA AGA AAT AAG GTA AAG AAA GAA TAT 496 Ala Leu Phe Asn Arg Leu Asp Val Val Pro Ile Glu Asn Thr Asn GCA CTT TTT AAT AGA CTT GAT GTA GTA CCA ATA GAA AAT ACT AAT 541 Asn Thr Lys Tyr Arg Leu Ile Ser Cys Asn Thr Ser Val Ile Thr AAT ACT AAG TAT AGG TTA ATA AGT TGT AAC ACC TCA GTC ATT ACA 586 Gln Ala Cys Pro Lys Val Ser Phe Gln Pro Ile Pro Ile His Tyr CAG GCC TGT CCA AAG GTA TCC TTT CAG CCA ATT CCC ATA CAT TAT 631 Cys Val Pro Ala Gly Phe Ala Met Leu Lys Cys Asn Asn Lys Thr TGT GTC CCG GCT GGG TTT GCG ATG CTA AAG TGT AAC AAT AAG ACA 676 Phe Asn Gly Ser Gly Pro Cys Thr Asn Val Ser Thr Val Gln Cys TTC AAT GGA TCA GGA CCA TGC ACA AAT GTC AGC ACA GTA CAA TGT 721 Thr His Gly Ile Arg Pro Val Val Ser Thr Gln Leu Leu Asn ACA CAT GGA ATT AGG CCA GTG GTG TCA ACT CAA CTG CTG TTA AAT 766 Gly Ser Leu Ala Glu Glu Asp Ile Val Ile Arg Ser Glu Asn Phe GGC AGT CTA GCA GAA GAA GAC ATA GTA ATT AGA TCT GAA AAT TTC 811 Thr Asp Asn Ala Lys Thr Ile Ile Val Gln Leu Asn Glu Ser Val ACA GAC AAT GCT AAA ACC ATA ATA GTA CAG CTA AAT GAA TCT GTA 856 Val Ile Asn Cys Thr Arg Pro Asn Asn Asn Thr Arg Arg Arg Leu GTA ATT AAT TGT ACA AGA CCC AAC AAC AAT ACA AGA AGA AGG TTA 901 Ser Ile Gly Pro Gly Arg Ala Phe Tyr Ala Arg Arg Asn Ile Ile TCT ATA GGA CCA GGG AGA GCA TTT TAT GCA AGA AGA AAC ATA ATA 946 Gly Asp Ile Arg Gln Ala His Cys Asn Ile Ser Arg Ala Lys Trp GGA GAT ATA AGA CAA GCA CAT TGT AAC ATT AGT AGA GCA AAA TGG 991 Asn Asn Thr Leu Gln Gln Ile Val Ile Lys Leu Arg Glu Lys Phe AAT AAC ACT TTA CAA CAG ATA GTT ATA AAA TTA AGA GAA AAA TTT 1036 Arg Asn Lys Thr Ile Ala Phe Asn Gln Ser Ser Gly Gly Asp Pro AGG AAT AAA ACA ATA GCC TTT AAT CAA TCC TCA GGA GGG GAC CCA 1081 Glu Ile Val Met His Ser Phe Asn Cys Gly Glu Phe Phe Tyr GAA ATT GTA ATG CAC AGT TTT AAT TGT GGA GGG GAA TTC TTC TAC 1126 Cys Asn Thr Ala Gln Leu Phe Asn Ser Thr Trp Asn Val Thr Gly TGT AAT ACA GCA CAA CTG TTT AAT AGT ACT TGG AAT GTT ACT GGA 1171 Gly Thr Asn Gly Thr Glu Gly Asn Asp Ile Ile Thr Leu Gln Cys

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Figure 3A (continued).

Sequence and translation of two cDNAs encoding HIV gp120-CD154 LONG form extracellular domain fusion proteins.

	GGG ACA AAT GGC ACT GAA GGA									-					_
1216	GGG	ACA	ТАА	GGC	ACT	GAA	GGA	AAT	GAC	ATA	ATC	ACA	CTC	CAA	TGC
1210	7	T10	T 176	Gln	Tle	Tle	Asn	Met	Trp	Gln	Lуs	vaı	сту	гуз	ALG
2061	ALG	7110	AAA	CAA	ΔΤΤ	АТА	TAA	ATG	TGG	CAG	AAA	GTA	GGA	AAA	GCA
1261	AGA	M	Ala	Dro	Dro	Tle	Thr	Glv	Gln	Ile	Arg	Cys	Ser	Ser	Asn
	Met	TÀT	GCC	CCT	CCC	ΔTC	ACA	GGA	CAA	ATT	AGA	TGT	TCA	TCA	TAA
1306	ATG	TAT	Gly	Tou	TON	Tou	Thr	Ara	Asp	Glv	Glv	Asn	Ser	Thr	Glu
	Ile	Thr	GGG	Leu	Leu	Ten	חכת	ACA	СДТ	GGA	GGT	TAA	AGT	ACT	GAG
1351	ATT	ACA	GGG	CTG	CTA	CIA	ACA	Dwa	Cly	Gly	Glv	Asp	Met	Ara	Asp
	Thr	Glu	Thr	GLu	тте	Pne	Arg	PIO	GIY	CCD	CCV	CAT	ATC	AGG	GAC
1396	ACT	GAG	ACT	GAG	ATC	TTC	AGA	CCT	GGA	GGA	GGA	GAI	7~~	T100	Glu
	Asn	Trp	Arg	Ser	Glu	Leu	Tyr	Lys	Tyr	ьуs	vaı	val	ALG	7 T.C	CNN
1441	א א יויי	TCC	$\Delta C \Delta$	ΔСТ	GAA	TTA	TAT	AAA	$^{\mathrm{TAT}}$	AAA	GTA	GTA	AGA	HII	GAA
	Dwo	Tlo	C1 v	Val	Δla	Pro	Thr	Arq	Ala	Lys	Arg	Arg	THE	Val	GIII
1486	CCA	АТА	GGĀ	GTA	GCA	CCC	ACC	AGG	GCA	AAG	AGA	AGA	ACA	GTG	CAA
1400			Lys												
1 5 2 1			AAA												
1531	AGA	GAA	LTTT	1.011											

(Gly₄Ser)₃ linker

 ${\tt BamHI}$

Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Gly Gly Ser Asp Pro GGG GGA GGC GGT TCA GGA GGT GGA GGT TCT GGA GGT GGC GGA TCG GAT CCA

OR ProAspPro linker

BamHI

Pro Asp Pro CC**G GAT CC**A

CD154 LONG FORM Extracellular Domain

CDIO	- TC				_		~ 1	7 ~~	C1						
1594GS	Arg	Arg	Leu	Asp	Lys	lle	GIU	ASP	GIU						
1552PDP	AGA	AGG	TTG	GAC	AAG	ATA	GAA	GAT	Dho	Mot	Luc	Thr	Tle	Gln	Ara
1621GS	Arg	Asn	Leu	His	Glu	Asp	Pne	Val	PILE THE	MEC	VVV	ACG	ΔΤΔ	CAG	AGA
1579PDP	AGG	AAT	CTT	CAT	GAA	GAT	TTT	GTA	Com	AIG	TOU	Aco	CVS	Glu	Glu
1666 GS	Cys	Asn	Thr	Gly	Glu	Arg	Ser	ьeu	ser	теи	CTC	VVC	тст	GAG	GAG
1624PDP	TGC	ASN AAC	ACA	GGA	GAA	AGA	TCC	TTA	100	TUE	Asp	Tle	Met	Leu	Asn
1711GS	Ile	Lys	Ser	Gln	Phe	GIU	GIY	Pne	Val	рус	CDT	ΔΤΔ	ATG	тта	AAC
1669PDP	ATT	Lys AAA	AGC	CAG	TTT	GAA	GGC	111	GIG	Dho	Glu	Met	Gln	Lvs	Glv
1756GS	Lys	Glu	Glu	Thr	Lys	Lys	GIU	ASII	261	T116	GAA	ATG	CAA	AAA	GGT
1714PDP	AAA	GAG	GAG	ACG	AAG	AAA	GAA	AAC	HGC	111	Tla	Ser	Glu	Ala	Ser
1801GS	Asp	Gln	Asn	Pro	Gln	TTE	Ala	Ala	UTP	CTC	מדת	ACT	GAG	GCC	AGC
1759PDP	GAT	CAG	AAT	CCT	CAA	ATT	GCG	GCA	UAI	7112	Glu	Lvs	Glv	Tvr	Tvr
1846GS	Ser	Lys	Thr	Thr	Ser	vaı	ьeu	GIII	TTP	CCT	CAA	AAA	GGA	TAC	TAC
1804PDP	AGT	AAA	ACA	ACA	TCT	GTG	TTA	UAG	Tou	Clu	Den	Glv	Lvs	Gln	Leu
1891GS	Thr	Met	Ser	Asn	Asn	Leu	vaı	THE	CTC	CAA	AAT	CCC	AAA	CAG	CTG
1849PDP	ACC	ATG	AGC	AAC	AAC	TTG	GTA	ACC	CIG	TIA	Tur	Δla	Gln	Val	Thr
1936GS	Thr	Val	Lys	Arg	GIn	GLY	Leu	TAT	TÀT	אתכ	T Δ T	GCC	CAA	GTC	ACC
1894PDP	ACC	GTT	AAA	AGA	CAA	GGA	CTC	Can	Cor	Cln	V) a	Pro	Phe	Tle	Ala
1981GS	Phe	Cys	Ser	Asn	Arg	GLU	Ala	Ser	Der	CVV	CCT	CCA	ттт	ATA	GCC
1939PDP	TTC	TGT	TCC	AAT	CGG	GAA	GCT	21	AGI	Pho	Glu	Ara	Tle	Leu	Leu
2026GS	Ser	Leu CTC	Cys	Leu	Lys	Ser	Pro	GTA	ALG	T116	GAG	AGA	ATC	TTA	CTC
1984PDP	AGC	CTC	TGC	CTA	AAG	TCC	CCC	GGI	AGA	Twe	Pro	Cvs	Glv	Gln	Gln
2071GS	Arg	Ala	Ala	Asn	Thr	HIS	Ser	Ser	CCC	מממ י	ССТ	TGC	GGG	CAA	CAA
2029PDP	AGA	GCT	GCA	AAT	ACC	CAC	AGI	Pho	Clu	Len	Gln	Pro	Glv	Ala	Ser
2116GS	Ser	Ile	His	Leu	GLY	GTA	. Agt	THE	GIU	ттс	CAA	CCA	GGT	GCT	TCG
2074PDP	TCC	TTA	CAC	TTG	GGA	, GGA	GIA	D~c	CAY	· Gln	Val	Ser	His	Glv	Thr
2161GS	Val	. Phe	Val	Asn	. Val	Thr	ASP	CCA	ycc yer	CV	CTG	AGC	CAT	GGC	ACT
2119PDP	GTG	TTT	GTC	: AAT	GTG	ACI	GAI	CCA	AGC	CAA	GIO	1100	Xh	aI	ACT
				_	~,	61 -	. T		T	. I 01	(Cl)	***			Arq
2206GS	Gl	, Phe	Thr	Ser	Phe	GT?	/ Let	r ren	ı шус	י הבר	· CAC	: ТСД	ч ТАР	TCI	Arg AGA
2164PDP	GGC	TTC	: ACG	TCC	; TTT	ا نان	, 11 <i>F</i>	1 010	, 1444	1 010	, 0110	, 101		-	

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Figure 3B.
Sequence and translation of two cDNAs encoding HIV gp120-CD154 short form extracellular domain fusion proteins.

	Hine	dIII									•						
		~~~~			Sign	nal i	Pept	ide									
					_		_		Ser	Gln	Leu	Leu	Glv	Leu	Leu		
1	AAG	CTT	GCC	GCC	ATG	CTG	TĀT	ACC	TCT	CAG	CTG	TTA	GGĀ	CTA	CTT		
								Bgl									
										~		gp120 domain					
				Ile													
46				ATC													
	Met	Ile	Cys	Ser	Ala	Thr	Glu	Lys	Leu	Trp	Val	Thr	Val	Tyr	Tyr		
91				AGT													
400	GLY	Val	Pro	Val	Trp	Arg	Glu	Ala	Thr	Thr	Thr	Leu	Phe	Cys	Ala		
136	GGG	GTA	CCT	GTG	TGG	AGA	GAA	GCA	ACC	ACC	ACT	CTA	TTT	TGT	GCA		
1.01	Ser	Asp	Ala	Lys	Ala	Tyr	Asp	Thr	Glu	Val	His	Asn	Val	Trp	Ala		
181				AAA													
006				Cys													
226	ACA	CAT	GCC	TGT	GTA	CCC	ACA	GAC	CCC	AAC	CCA	CAA	GAA	GTA	GTA		
074	Leu	GIA	Asn	Val	Thr	GLu	Asn	Phe	Asn	Met	Trp	Lys	Asn	Asn	Met		
271	TTG	GGA	AAT	GTG	ACA	GAA	AAT	TTT	AAC	ATG	TGG	AAA	AAT	AAC	ATG		
216	vaı	Asp	GIN	Met	HIS	Glu	Asp	TTE	Ile	Ser	Leu	Trp	Asp	Glu	Ser		
316	GTA	GAT	CAG	ATG	CAT	GAG	GAT	ATA	ATC	AGT	TTA	TGG	GAT	GAA	AGC		
2.61				Cys													
361				TGT													
100	Cys	Thr	Asn	Leu	Asn	TTE	Thr	Lys	Asn	Thr	Thr	Asn	Pro	Thr	Ser		
406				TTG													
A E 1	Ser	Ser	Trp	Gly	Met	Met	Glu	Lys	GLY	GLu	lle	Lys	Asn	Cys	Ser		
451				GGA													
106	rne	Tyr	TIE	Thr	Thr	ser	TTE	Arg	Asn	ьуs	val	Lys	Lys	Glu	Tyr		
496	715	IAI	Pho	ACC Asn	ACA	AGC	AIA	AGA	AAT	AAG	GTA	AAG	AAA	GAA	TAT		
541	CCN	Leu	THE	AAT	ALG	стт	ASP	var	Val	CCA	TTE	GIU	ASD	TOT	Asn		
241	Aen	Thr	Tue	Tyr	AGA	TOU	TIO	SOF	CVA	Acn	Th.	CAA	MAI	ACI	AAT		
586	አካጥ	λCT.	лус	TAT	ACC	TEU	у т.у. т.т.с.	2 C.II	Cys	ASII	TIII	Ser	val	TTE	Inr		
500				Pro													
631				CCA													
001				Ala													
676				GCT													
0.0				Ser													
721	TTC	AAT	GGA	TCA	GGA	CCA	TGC	ACA	AAT	GTC	AGC	ACA	GTA	CAA	тст		
				Ile													
766				ATT													
				Ala													
811	GGĈ	AGT	CTA	GCA	GAA	GAA	GAC	ATA	GTA	ATT	AGĀ	TCT	GAA	AAT	TTC		
				Ala													
856															GTA		
				Cys													
901				TGT													
				Pro													
946				CCA													
				Arg													
991				AGA													
				Leu													
1036				TTA													
	Arg	Asn	Lys	Thr	Ile	Ala	Phe	Asn	Gln	Ser	Ser	Gly	Gly	Asp	Pro		
1081				ACA													
				Met													
1126				ATG													
	Cys	Asn	Thr	Ala	Gln	Leu	Phe	Asn	Ser	Thr	Trp	Asn	Val	Thr	Gly		
1171	TGT	AAT	ACA	GCA	CAA	CTG	TTT	AAT	AGT	ACT	TGG	AAT	GTT	ACT	GGA		

## 7/7 Figure 3B (Continued). Sequence and translation of two cDNAs encoding HIV gp120-CD154 short form extracellular domain fusion proteins.

CD154 short form extracellular domain fusion proteins.																	
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1216	GG	יב ער	מת מי	יוו פו	.y 11	IT GI	u GI	y As	n As	p Il	e Il	e Th	r Le	u Gl	n Cys	3	
	Ar	o 110	A AA	e C1	n Tl	A TI	A GG	A AA	T GA	C AT	A AT	C AC	A CT	C CA	n Cys A TG0		
1261	AG.	э тт	'A AA	A CD	ת מ.	ייי אייי בי דד	C AS	n ve	t Tr	b GT	n Ly	s Va	l Gl	у Lу	s Ala	ì	
	Me	t Tv	r Al	a Pr	n Pr	o Tl	A AA a Th	r Cl	G TG	G CA	G AA	A GT.	A GG.	A AA	s Ala A GCA	A	
1306	AT	2 G TA	T GC		יי רר	СЪТ	C 111	y CC	у Си:	у уш () ТТ	e Ar	g Cy	s Se	r Se	A GCA r Asr A AA1	1	
	Il	€ Th	r Gl	v Le	n Le	n Le	n Th	r Ar	A CA	A AT	T AG	A TG	T TC	A TC	A AAT r Glu		
1351	AT:	г ас	A GG	G CT	G CT	A CT		D DC	y Asi	L CC	A CC	y Asi	n Sei	r Th	r Glu T GAG	l	
				В	glII				I OA.	1 36.	ת טט	I AA	I AG	r AC	T GAG	j	
				~	~~~												
	Thi	Gl	u Th	r Gl	u Il	e Ph	e Ar	g Pro	o Gly	y Gl	y Gl	v Ası	o Met	- Arc	g Asp		
1396	AC.	. GA	G AC	I GA	G AT	CTT	J AG	A CC	Γ GG <i>I</i>	A = GGZ	A GG	A GA	ቦ ልጥረ	2 ACC	$= C \Lambda C$		
	ASI	TIL	p ar	g se	r GI	u Lei	ı Tv:	r Lvs	s Tvr	^ T.Vs	s Vai	1 Val	1 220	* T1	~ Cl.,		
1441	AA.	. IG	G AG	A AG	T GA	$A = I \cup I \cup I$	J TA	I' AAA	ATAT	י אא	A GT	д сти	A ACZ	י איזייי א	ת תים יו		
1406	PIC	) TT	e GT	y va	$\perp$ A1.	a Pro	o Thi	r Arc	ı Ala	Lvs	s Arc	T Arc	Th?	~ W-1	015		
1486	CCF	AI	A GG	A GT	A GC	A CCC	C AC	CAGO	GCA	AA(	G AG	A AGA	ACA	A GTO	GIII G CAA		
1531	Arc	GT.	и ьуя	s Ar	g												
1331	AGA	L GAZ	A AA	A AG	A												
(Gly ₄ Ser) ₃ linker																	
ſ																amHI	
1542	Gly	Gly	y Gly	/ Gly	y Sei	Gly:	gl Gl	/ Gly	Gly	Ser	Gl	, Gly	Gly	Gly	Ser	Asp	Pro
1543 [		002	7 996	<u>, 66.</u>	LICE	7 GGF	GG1	' GGA	GGT	TCI	' GG <i>P</i>	GGT	' <u>GGĈ</u>	GGĀ	Ser TCG	GAT	CCA
	011	<i>Proz</i> amH]	13pr 1	:O 1:	inkei	•											
		amnı		_,													
1543	Pro	Asr	Pro	,													
			CCA														
2501		CD1	54 5	HOR	FOF	M Ex	trac	ellu	lar .	Doma	in						
1594GS	_	Glu	Asn	Ser	Phe	Glu	Met	Gln	Lys								
1552PD	P	GAA	AAC	AGC	TTT	GAA	ATG	CAA	AAA								
1618GS 1576PD	D	GLy	Asp	Gln	Asn	Pro	Gln	Ile	Ala	Ala	His	Val	Ile	Ser	Glu	Ala	
1663GS	r	GGI	GAI	CAG	AA.I	CC.I.	CAA	ATT	GCG	GCA	CAT	GTC	$\Delta T \Delta$	ACT	CAC	CCC	
1621PDI	D	Ser	ser	Lys	Thr	Thr	Ser	Val	Leu	Gln	Trp	Ala	Glu	Lys	Gly	Tyr	
1708GS	-	Tur	Th~	Mat	ACA	ACA	TCT	GTG	TTA	CAG	TGG	GCT	GAA	AAA	GGA	TAC	
1666PDF	<b>&gt;</b>	ተ ያ ተ	ACC	VAC.	261	ASII	ASN	Leu	val	Thr	Leu	Glu	Asn	Gly	Lys	Gln	
1753GS	-	Leu	Thr	Val	Luc	AAC	Cla	C1	GTA	ACC	CTG	GAA	AAT	GGG	AAA	CAG	
1711PDE		CTG	ACC	GTT	DYS	ACA	GTII	CCV	CTC	Tyr	Tyr	TTE	Tyr	Ala	Gln CAA	Val	
1798 <b>G</b> S		Thr	Phe	Cvs	Ser	Asn	Ara	GUA	712	COX	Com	ATC	TAT	GCC	CAA Phe	GTC	
1756PDE	?	ACC	TTC	TGT	TCC	TAAT	CGG	GAA	CCT	TCC	Ser	GIN	Ala	Pro	Phe TTT	Ile	
1843GS		Ala	Ser	Leu	Cvs	Leu	Lvs	Ser	Pro	Clu	V.C.	Dha	GCT	CCA	Ile	ATA	
1801PDF		GCC	AGC	CTC	TGC	CTA	AAG	TCC	CCC	CCT	ALA ATA	TITE	CAC	Arg	ATC	Leu	
1888GS		Leu	Arg	Ala	Ala	Asn	Thr	His	Ser	Ser	Ala	Luc	Dro	Cuc	Gly	TTA	
1846PDF	•	CIC	AGA	GCT	GCA	AAT.	ACC	CAC	AGT	TCC	GCC	AAA	CCT	TCC	GGG	C N N	
1933 <b>G</b> S		GIII	ser	тте	Hls	Leu	Gly	Glv	Val	Phe	Glu	Len	Gln	Dro	C1 **	777~	
1891PDF	•	CAA	TCC	ATT	CAC	TTG	GGA	GGA	GTA	TTT	GAA	TTG	CAA	CCD	CCT	CCT	
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2023GS 1981PDP		TUL	GTA	rne	Thr	Ser	Phe	Gly	Leu	Leu	Lys	Leu	Glu	***	***	Ser	
TOTLDE		ACı Xba]	- 300	110	ACG	TCC	TTT	GGC	T.I.Y	CTC	AAA	CTC	GAG	TGA	TAA :	rct	

2068GS Arg 2026PDP AGA